

Printed by MICHAEL AMSTER

I N T E R O F F I C E M E M O R A N D U M

Doc. No: 003603
Date: 07-Feb-1992 03:19pm EDT
From: MICHAEL AMSTER
AMSTER.MIKE
Dept: Corp I.H./Safety
Tel No: 223-8383

TO: Remote Addressee (JERRY GAUDET @AKO)
CC: Remote Addressee (CHRIS MCGILL @MSO)
CC: Remote Addressee (BILL REYNOLDS @MSO)

Subject: Trip Report-SGO/AGO Jan. 29-31 1992

Jerry:

I am very impressed with the progress being made at SGO/AGO on the implementation of their chemical management program, as well as the ongoing IH/S implementation activities. Considering the work that is being done at this site, it may not be too extreme to say that management backing, top to bottom, in COM for EH&S is the best in the company. The progress of the program in the last year is a mirror of this commitment and support.

This 2 1/2 day trip was to precede and prepare for the week of HAZMIN training. It has taken almost 1 year to assure that a chemical approval process is in place and being followed. This was necessary before the institution of HAZMIN or any automated MSDS handling tool could be attempted. Now that the process is in place the implementation of the tool can proceed.

The use of conference phone calls and video conferencing were key to getting the program to this point. Because of the nature of the training, continuing the use of the video conferencing through the training phase would not have been practical. We were able to avoid at least 3-4 person weeks at SGO/AGO by making judicious use of they facilities.

Activities of the week included:

Reviewed status of the chemical approval process. They described a system that assures all chemicals entering the site do so only after the proper review. There was a high degree of comfort that the system was functioning properly. It was understood that the process was the critical piece. The successful implementation of HAZMIN or any automated tool was only then possible. There would be glitches as the actual tool implementation progressed. That was understood.

Reviewed site EH&S Program Manual. This collection of documents was

HP-002474

developed in response to site needs and the EH&S audit findings. They currently have 12 documents written. I specifically reviewed and commented on:

- Cumulative Trauma Disorder

- Chemical Hygiene and Lab Safety Program

The program documents are well written. They will be placed under site document control. The challenge is to assure that they continue to be properly implemented site wide. They have made a great deal of progress. They may be the only site in the entire company where there has been 100% HAZCOM training attendance.

A major piece of the IH Program implementation is an area by area site evaluation. This is progressing as planned.

Toured site with other team members (Mary Boldeia, Lynn Rodon, and Phil O'Connell). A number of program related discussions resulted from observations made.

Reviewed Lockout/Tagout procedures with the site electrician. It appears that the process is being followed. Angel will audit ongoing compliance.

There were a number of HAZMIN tool related discussions to assure that details of the tool were understood and that all the details were ready for the next weeks training.

Discussed the details of Angel's presentation to the COM Staff which was being made on Monday to explain the week's training activities. Of major import was to stress the need for business ownership of Chemical Management, the importance of the process, and the possible business rewards from such a program.

Helped network with the IH Manager at Shipley in Marlborough to begin to resolve the issue of what to do with chemical drums and excess chemicals purchased for pilot testing.

Participated in a meeting with Jose Frontera, COM Materials Manager, to explain the business side of Chemical Management. He accepted ownership of many of the business related chemical management issues. This discussion was in preparation for the Monday COM Staff Meeting and presentation.

Met with Americo to discuss the process and how well it was progressing. Got a minute with Miguel to let him know how well things were going and how big a part he played with his support.

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I N T E R O F F I C E M E M O R A N D U M

Doc. No: 002493
Date: 27-Sep-1991 11:46am EDT
From: Angel Serrano
SERRANO.ANGEL AT BUZONA1 at IN

DIOS at SGO

Dept: COM EH&S
Tel No: DTN 721-2574

TO: See Below

Subject: COM EH&S Programs Implementation

Jerry,

This memo is to inform you of our current progress and actions which occurred during the visit to SGO of Mike Amster and Bruce Boguslav. Mike and Bruce were at SGO 9/23-9/27/91.

Focus of Week

The focus of the week was:

- Review of Chemical Management/HAZMIN implementation and schedule revision
- Review of the IH/Safety Program implementation and schedule

Program Status

- Chemical Management/HAZMIN - reviewed implementation to date
- reviewed and revised implementation steps of Chemical Management process
- solidified responsibilities and implementation schedule
- I/H and Safety - reviewed program detail and implementation to date
- modified program implementation priorities based on personnel changes at site

Plans

HP-002476

The next major milestone needing assistance is Coordinator Training for HAZMIN implementation, which we need Bruce to provide and is a major milestone in the implementation process. To save time and money we are attempting to arrange to utilize our telecommunications technology.

In the IH/Safety area we will continue to review documents and implementation plans with Mike as we proceed.

Summary

Mike and Bruce continued to provide valuable assistance in the overall program development and implementation. Their guidance and insight has been both timely and advantageous in our effort to improve in both areas. We look forward to their continued involvement as these programs progress and to having them on site again in December.

We look forward to seeing you at the end of October. We will review our progress at that time.

Regards,
Angel

Distribution:

TO: JERRY GAUDET @AKO

CC: RAY LOCKE @MSO

CC: JACK GEISSERT @MSO

CC: BRUCE BOGUSLAV @MSO

CC: MIKE AMSTER @MSO

CC: AMERICO ABADIA @SGO

(ABADIA.AMERICO AT BUZONA1 at INDIO

I N T E R O F F I C E M E M O R A N D U M

Date: 12-Apr-1991 08:30am EDT
From: NELSON ROMAN ALBINO
ROMAN.NELSON AT BUZONA1 AT IND
Dept: EFA
Tel No: 721-2526

IOS

TO: MIKE AMSTER@CFO

CC: ANGEL SERRANO @SGO

CC: SONIA de la TORRE
OS)

(SERRANO.ANGEL AT BUZONA1 AT INDIOS)
(DE-LA-TORRE.SONIA AT BUZONA1 AT INDI

Subject: THANKS !

I WOULD LIKE TO EXPRESS MY APPRECIATION FOR YOUR TIME AND SINCERE
COOPERATION IN ASSISTING US WITH THE COM HAZARD COMMUNICATION PROGRAM.
YOUR INPUTS AND COMMENTS HAVE BEEN INCORPORATED IN THE LATEST PROGRAM.

THANK YOU FOR YOUR USUAL AND PROMPT RESPONSE.

THANKS AGAIN
NELSON

Digital Equipment Corporation
P.O. Box 106
San Germán, Puerto Rico 00753
809-892-1946

NOV 28 1989

digital

November 13, 1989

Mr. Carl A. Soderberg
Director Pretreatment Area (PRASA)
P.O. Box 7066
Barrio Obrero Station
Santurce, Puerto Rico 00916

Re: Compliance Plan Meeting

It was a pleasure to meet with you on November 10, 1989. Thanks you for your hospitality.

The following confirms the basic agreements that Digital de Puerto Rico and PRASA made during our meeting on November 10.

- * BOD interim limit until December 31, 1989 = 780 ppm
- * BOD interim limit since January 1, 1990 = 650 ppm
- * COD interim limit = BOD x 1.7
- * Manganese (Mn) interim limit = 3.0 ppm
- * Color interim limit = 150 Pt - Co units
- * TSS final limit = 250 ppm
- * Compliance plan schedule to achieve final limits will be revised and submitted to PRASA by December 7, 1989. It will include the compliance date to meet the interim limit of 500 ppm for BOD.
- * A meeting will be held with PRASA on December 14, 1989 to discuss the revised compliance schedule. The compliance date or meeting the 500 ppm of BOD, will be discussed at this meeting.

Digital remains committed to complying with all applicable laws and regulations relating to our wastewater discharges. We continue to work as hard as possible to that end. We look forward to meeting with you in December.

HP-002479

Mr. Carl A. Soderberg
Director Pretreatment Area (PRASA)
P.O. Box 7066
Barrio Obrero Station
Santurce, Puerto Rico 00916

Sincerely,



Americo Abadia
Environmental, Safety/Security
& Facilities Manager for
Caribbean Operations

AA/dlr

cc: Distribution list

Dr. Edmundo D. Torruellas - PRASA
Stephen Greene - DEC
Laura Goldin - DEC
John Crowley - DEC
Jorge Marrero Narvaez - PRASA
Francis Torres - Goldman & Antonetti
Jeanette Escabi - DEC
James Rodriguez - PRASA
Miguel Nazario - DEC

2. 7 11/10/89

Digital Equipment Corp.

1. Dr. Edmundo D. Torrealba
Chief, Div. II, Permits & Eng.
2. Stephen Green, manager
Corporate Environmental Affairs - 508-264-1885
3. Laura Goldin Senior Attorney,
Corporate Environmental Attorney 508-493-5831
4. JOHN CROWLEY GROUP MANAGER
ENVIRONMENTAL HEALTH + SAFETY
MANUFACTURING
GENERAL INTERNATIONAL AREA - + ENGINEERING.
5. Jorge Marrero - Narvaez In-house Legal Counsel PRISA
766-1005 or 1075
6. AMERICO ABADIA ENVIRONMENTAL Health & Safety MGR
FOR CARIBBEAN OPERATIONS
7. FRANCIS TORRES Goldman & Akneith
Outside Counsel Digital 721-2424
8. Jeanette Ewaki Digital of San German 892-1946
Chemical Engineer
9. James Rodriguez Supervisor PRISA 766-3175

I n t e r o f f i c e M e m o r a n d u m

To: JIM STEWART

Memo: 5346765620CEL00
Date: Fri 22 May 1987 1:42 PM EDT
From: GERRY KEFALINOS
Dept: HAZ. MATERIALS
Tel: 234-4536
Adr: NRO2-1/J4

Subject: Chemical Exposure

Jim:

On a recent trip to San German in Puerto Rico, Polly Strife and I observed an operation that could pose a potential problem to the people concerned.

During a tour of the plant, one of the manufacturing lines was shut down for routine preventative maintenance. The chemicals in use during this maintenance procedure were extremely nauseous. There was a heavy ammonia odor to them. They were so strong that we found it difficult to breath. The employee's, working in the area, were wearing protective clothing however they were not using any type of protective breathing apparatus. Due to the potential hazard that this situation might pose, I feel that your organization should be advised.

Please advise me of your findings.

Thanks,
Gerry

* DIGITAL *

INTEROFFICE MEMORANDUM

TO: Distribution

DATE: 20 February 1986
FROM: Cary B. Gherman
DEPT: Corporate Industrial
Hygiene and Toxicology
EXT : 251-1229
LOC/MS: CF02-2/G13

SUBJECT: VISIT TO SAN GERMAN AND AGUADILLA FACILITIES, PUERTO RICO
JANUARY 28, 29, 1986

I would like to express my appreciation to Julio Enriquez Melendez and Rafael Marquez for their time and sincere cooperation in assisting the team during our visit to Puerto Rico. I regret not having the opportunity to meet Angel Serrano during this visit, however I am sure we will have the opportunity in the near future.

SAN GERMAN VISIT

In Angel's absence, Julio gave Bruce Roth and I a thorough tour of the San German facility. Although the written programs were not available to us, the following positive observations were made in regard to Environmental, Health and Safety programs:

- There is a high level of Safety and Health program visibility through the use of signs, posters, and personal protective equipment warning signs.
- Ventilation systems were operating well in most areas.
- Most chemicals containers were labeled.
- The drill room had hearing protection requirements which were well adhered to by the employees.
- Fire extinguishers were well distributed in areas of need and were inspected regularly.
- Self contained breathing apparatus was available at the entrance to potential chemical emergency areas.
- The in-plant housekeeping was very good. Aisles were clear, exits unobstructed and the floors were clean.

- Evacuation routes were clearly posted.
- Additional ventilation in high temperature areas such as the Lamination process area improve the comfort of employees.
- Mini-fans are used for employees in soldering operations to remove flux smoke from the operators breathing zone.
- Machine guarding programs were well established.

In reviewing San German's Accident Data, the injury/illness statistics were again very low for this facility compared to DEC. December was an especially good month with 0 reportable accidents. A Perfect Score!

In an effort to improve upon the existing Environmental, Health and Safety programs at San German, the following are observations of areas which may need additional reinforcement.

- Personal Protective Equipment procedures and requirements should be enforced to ensure employee compliance. Additional safety training under Hazard Communication may also improve employee awareness. Employees were not wearing safety glasses in safety glass required areas and employees working with Hazardous Chemicals were not wearing gloves, face and body protection from splashes.
- There is a need for consistency on the labeling of chemical containers.

Many of the labels have all the necessary items for compliance with the Hazard Communication Regulations, whereas some containers have incomplete or absent labeling. For example: Some containers or tanks are labeled "acid", while others are labeled "sulfuric acid" with all the proper warning information included in the label. As part of the Hazard Communication Policy, there is a labeling procedure which will be of some help. You should receive this shortly.

- There appeared to be non-compliance with established respirator cleaning and storage requirements. Respirators were found in contaminated areas without proper protection. Maintenance of the respirators appeared to be lacking. Annual re-training will again improve employee awareness in this area.
- The gold potassium cyanide stripping area had several potential problems at the time of our visit. It was observed that:

- a) The area was not secure from unauthorized entry. This is a concern from the standpoint of untrained employees being exposed to potassium cyanide. Potassium cyanide is an

extremely toxic material. If an untrained employee accidentally were exposed to the material, serious consequences could result.

- b) The container of potassium gold cyanide was open with evidence of spillage. The extreme toxicity of this material warrants special storage, labeling and handling. Good housekeeping is essential to the safe handling of cyanides.
- c) The gold plating area should have controls to prevent potassium cyanide spillage, so that acids also used in process do not mix with gold solutions. Acid reacts with potassium cyanide to produce highly toxic hydrogen cyanide gas.

Note: The gold strip procedures from GSO should be helpful in improving this area. This document details all use, storage, handling, labeling, protection, and controls from KCN stripping operation. I gave a copy to J. Enriquez during my visit.

CHEMICAL STORAGE

- Incompatible chemicals should be stored separately. This requirement includes all areas where large volumes of chemicals are stored, used, mixed, staged, etc. For example, the chemical mixing area had acetone, a flammable chemical, being dispensed next to acids. The two chemicals will react if mixed. The spill containment for this area is one common trench, therefore mixing will occur when spillage occurs. The spilled mixtures can cause hazardous reactions which could cause many undesirable effects.
- Spill control equipment (ie. neutralizers, spill pillows, squeegees, Personal Protective Equipment)) should be located directly outside areas of potential spills. The equipment should be easily accessed and unobstructed. For example: Two carts of spill control equipment were observed. One was obstructed by pallets in the chemical storage building, the other was locked in the hazardous waste storage area. If the chemical spill control equipment is kept outside the area of potential spills it is easily accessed during a spill situation.
- Drums above floor level should be banded onto a pallet to prevent spillage.
- Oxidizers should not be stored on wooden pallets. ie. nitric acid, hydrogen peroxide. These chemicals will react with the wood and possibly cause a fire.
- Drums of sodium hydrosulfite (for waste treatment) were found stored in areas where they potentially are exposed to water. Since this chemical can react with water to cause a fire, these containers must be kept dry at all times.

- Although the housekeeping was excellent - inside the facility there is need for improvement in the housekeeping of waste treatment, waste storage, and tank farm areas.
- The tank farm preventive maintenance needs to be improved regarding the checking of leaks, spills, supports and general upkeep. For example, there was evidence of leaking pipes and spills which had not been cleaned up in a timely manner.
- Industrial Hygiene concerns noted are:

Lead salts were evident as crystals near the solder plating baths. This could indicate potential lead exposures to employees. Improved housekeeping by daily thorough washing of these lead salts from the equipment should eliminate this problem.
- The odor of Formaldehyde vapors were detectable in the Electroless Copper Plating area. Industrial Hygiene data needs to be collected to determine if the exposures are above the Threshold Limit Value.

The following safety and Industrial Hygiene program materials were given to Julio Enriquez to be shared with Angel Serrano. This material is intended as additional information to aid in the continuing development of the Safety and Industrial Hygiene programs at San German and Aguadilla.

1. Confined space entry procedures.
2. Respiratory protection manual.
3. Tank truck load/unload compliance checklist.
4. Printed Wiring Board facility industrial hygiene sampling strategies.
5. Cyanide safety procedures.
6. Environmental, Health and Safety Audit program.
7. Corporate Hazard Communication Videotape.

The San German facility appeared to have many good safety and industrial hygiene programs in place. As noted, there are also several areas in which there are opportunities to improve the workplace health and safety. The qualified staff at San German is now in the process of addressing these issues.

VISIT TO AGUADILLA

The Digital Aguadilla facility has relatively little chemical usage however, some chemical related operations do exist. Again, Julio Enriquez gave Polly Strife, Bruce Roth and I a tour of the facility on 1/29. The following observations were noted during the walk through.

- There is a high level of safety awareness in the plant through the use of signs, posters etc. that helped to remind employees of the requirements under the established Safety and Health policies.
- There are well established safety and health policies, protective equipment requirements, emergency contingency manual, evacuation procedures and other well documented programs.
- The Aguadilla facility does an excellent job in keeping the aisles clear, exits marked and unobstructed.
- Most areas where volatile substances were utilized, local exhaust was used for vapor control. For example: degreasers, wave solder.
- Industrial Hygiene surveys and sampling have been performed to evaluate lead, MDI, formaldehyde, and solvent exposures.

Areas where observations showed an opportunity for improvement of Environmental, Health and Safety issues were:

- Reinforcement of personal protective equipment requirements. Many employees were found not wearing eyewear, gloves, and other personal protective equipment in areas where required.
- Hazardous material storage needs to be improved from the standpoint of compatibility - acids, alkalis, organics, and flammables were stored together in the same room. Segregation of incompatibles will improve the safety of chemical storage. These chemicals may react to form hazardous or explosive mixtures when combined. Separation of incompatibles will prevent this mixing if spilled.
- The Foam-in-Place operation needs to be evaluated for personal protective equipment such as gloves, aprons and goggles and engineering controls such as local exhaust. Although Industrial Hygiene sampling has shown potential exposure levels to be low, hypersensitive individuals may be susceptible to MDI exposure. Every effort needs to be extended to control the potential hazards. As one of my action items, I will send you a design for local exhaust for a foam-in-place operation. This is contained in Corporate

Industrial Hygiene and Toxicology's guide for Foam-In-Place operations that has recently been published..

- Another commitment made at the time of our visit, was to provide Julio with a copy of the script for the Hazard Communication/Right to Know video tape for translation into Spanish.

I look forward to meeting with you again in the near future. Corporate Industrial Hygiene and Toxicology and the San German and Aguadilla facilities have one common goal - a safe and healthful workplace for all Digital employees. Through follow-up and team work we will be able to address these and future issues as a team. This challenge is a great opportunity for all of us to benefit and grow.

CBG/ci

* D I G I T A L *

INTEROFFICE MEMORANDUM

TO: Distribution

DATE: 20 February 1985
FROM: Jim Stewart *JS*
DEPT: Corp. Ind. Hyg. & Toxicology
EXT : 288-6256
LOC/MS: AK01-3/G13

SUBJECT: VISIT TO PUERTO RICO ON FEBRUARY 17,18, 1985

I would like to extend my thanks to Ray Marquez and Hiram Quinones for their hospitality and compliment them on the obvious work that has taken place to remove potential safety and health hazards in the Puerto Rican operations. Examples of the preventive programs are:

- Medical surveillance for employees that work with chemicals.
- Audiometric testing/hearing conservation programs for those employees in environments with noise exposures above 80 DBA.
- Machine guarding to protect the operators from crushing type injuries.
- Outside Industrial Hygiene Surveys to assess potential employee exposures to process chemicals.
- Biological monitoring (blood and urine) for those employees who work with lead.
- Chromic acid medical surveillance program (for chromic ulcers).
- New chemical purchase policy to identify controls, protective equipment and disposal procedures before the chemicals enter the plant.

In reviewing the actual injury and illness data for the Puerto Rican operations I found that the number and severity of injuries and illnesses was low e.g. in Aguadilla there were only six OSHA recordable injuries in 1984. The incidence rate is then approximately 0.66. The rate for San German was .57. This compares to a rate of approximately 2.0 for Digital as a whole and 4.0 for the entire U.S. based computer industry.

In touring the plants there were several items that I felt should be added to the program:

- The foam in place packing operation in Aguadilla should be enclosed and ventilated to prevent the sensitization and resulting allergic reactions of the employees. I recommend a modified laboratory type hood to enclose the operation. If any assistance

is needed in the ventilation design I would be glad to help. Also at this operation there is a need to have the operators wear their personal protective equipment. Recent articles from the literature indicate that skin contact with isocyanates can result in respiratory sensitization. Therefore, it is important that the employees wear their protective equipment. If you need any help in finding equipment that is impervious to the solvents or other constituents of the mixture I would be glad to help identify a source.

- Although we have a number of Industrial Hygiene surveys from the facility at San German, we need to have another one performed to resolve the disagreement between the two sets of data. One indicates that we have high levels of exposure and the other report shows that we are well within the acceptable limits. I feel that the latter is the correct assessment of the operation I saw. However, having two reports like this necessitates a "Tie Breaker" because we have no real reason to believe one or the other.
- The surface mount operation at Aguadilla needs to have baseline lead monitoring performed to assess the level of lead if any in the air. This is required by the lead standard under OSHA. To lower the cost of this, it may be possible to get one of the Industrial Hygienists in DEC to come to Puerto Rico and perform the survey and as a benefit, train Julio or whomever he selects to be the designated person to take the Industrial Hygiene samples in the plant. I personally feel that it will take several training sessions to train the person to take these types of samples. The samples must be taken in a way that is in accordance with established Industrial Hygiene sampling techniques in case the situation ends up in litigation or OSHA/NIOSH asks to see the data. If this interests you I would be glad to set up a list of people in DEC who are qualified to take these samples.
- In San German I.H. data needs to be collected to assess the potential exposures of the technicians during chemical transfer operations and tank clean outs. These operations are performed at least weekly and represent the greatest possibility of exposure to: lead salts, butyl cellosolve, hydrochloric acid, chromic acid, ammonia and formaldehyde.
- All of these chemicals should be assessed. As stated previously, it may be possible to get this done in-house.
- At Aguadilla the weekend cleaning of the solder pot needs to be monitored for lead dust.

My commitments to you were to:

- o Send Angel Serrano material describing Air Sampling Techniques.

Action: The material was sent out on February 19, 1985
by in-house mail.

- o Locate an instrument in DEC capable of monitoring Ultraviolet light. This will make the evaluation of the U.V. light in Aguadilla possible.

Action: There is an instrument in Hudson that will perform the function. The contact person is George Hynes DTN 225-4545.

- o Find a method of sampling for MDI that is sensitive to the levels necessary to comply with the NIOSH recommendations.

Action: I have been in touch with MDA, a manufacturer of instruments of this type. Some literature is on the way to me. When I find something that looks good I will send it to you.

- o Place Hiram, Ray, Julio and Angel on the Safety Mailing List.

Action: Two weeks prior to my trip I had the secretary prepare a new Safety Distribution List. The only name that had not been added was Hiram's. It has now been added.

- o Provide a mechanism to get Industrial Hygiene and Toxicological information out to the plants.

Action: I have planned a symposium to be held in April on Industrial Hygiene and Toxicology. The agenda has been sent out for comments. The purpose is to provide Technical Training for IH's and to organize DEC's Industrial Hygiene and Toxicological efforts. The date of the symposium will be announced later this month.

Visit to Puerto Rico February 17,18, 1985
20 February 1985
Page 4

- o Investigate ways to reduce the technicians potential exposure to ammonia during cleaning of the etch tank.

Action: I am currently investigating this and will contact you when I get something concrete.

If there is something I forgot to mention, please let me know. Again I want to express my appreciation for your time and efforts in making my visit productive and enjoyable.

JS/ci

DIGITAL MEETING
11:00 a.m. 5/11/84

| NAME | ORGANIZATION | PHONE |
|-------------------|--------------------|----------------|
| Wayne Pierre | USEPA - Superfund | (212) 264-1575 |
| CARLOS E. O'Neill | USEPA - Superfund | (809) 725-7825 |
| JAMES C. Woods | " ORC-LTS (NY) | 212-264-2462 |
| Tom Huppoch | Digital (att) | 617-486-7241 |
| MICHAEL POWERS | EZA FOR DIGITAL | 401-421-4140 |
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| RAFAEL LAMA | " " " | " " " |
| Luis A. Ureto | " " " | " " " |